

REMARKS

CLAIM REJECTIONS 35 USC 103

Claims 1-23 have been rejected as being obvious over Tangen in view of Hoshuyama in further view of Smith.

Applicant respectfully traverses the Examiner's rejection for the reasons described below.

The combination of Tangen and Hoshuyama do not teach or suggest the invention set forth in the Claims. This point was elaborated in numerous responses and will be repeated below for the sake of a complete reply.

Applicant respectfully reminds the Examiner of the Advisory Action mailed on November 4, 2010. In that Action the Examiner rejected all the Claims based only on the combined teachings of Tangen and Hoshuyama. A Panel Decision mailed on February 18, 2011 withdrew that Action and reopened prosecution. The Examiner subsequently issued the current Office Action further rejecting all the Claims based on Tangen and Hoshuyama – with the addition of Smith.

Without addressing the merits of the Smith disclosure, Applicants submit that Smith is not available as a reference. Smith has a filing date of May 16, 2007, whereas the current application has a priority date of March 17, 20.¹ (With Smith being unavailable as a reference, the remaining references are Tangen and Hoshuyama – the combination of which do not teach the invention set forth in Claim 1 – as evidenced by the panel decision mentioned above.)

¹ Applicant reviewed all parent applications of the Smith disclosure and none of them disclose the image capture device disclosed in the '283 patent. In fact, the only possible prior art dates for applications in the Smith chain are provisional applications 60/476,200 and 60/532,175 filed June 6, 2003 and December 24, 2003 respectively. Those applications are directed to a coiled memory device and have nothing to do with lenses, cameras or image capture.

The above notwithstanding, Applicant has amended Claim to clearly distinguish the invention.

Applicant has amended Claim 1 to recite that nano scale optical elements...function as lenses and that they gather overlapping information and still further that an image is obtained by combining said overlapping information.

In a previous Office Action (August 18, 2010) the Examiner cited Moore as teaching the step of "gathering overlapping information."

Applicants submit, however, that Moore, if anything *teaches away* from the invention set forth in proposed Claim 1. Specifically, Moore addresses the problem of how to get rid of overlapping information. The current Claim, however, recites whereby an image is obtained by combining said overlapping information. That is, whereas, Moore is directed to determining an area of overlap and then eliminating such area - the invention set forth in Claim 1 utilizes the overlapping information to obtain an image.

With respect to the Examiner's rejection of the Claims based on the combined teachings of Tangen and Hoshuyama, Applicant respectfully restates the following:

**Neither Tangen nor Hoshuyama Teach or Suggest the Limitation of
Nanoscale**

Neither Tangen nor Hoshuyama teach or suggest a "nano imaging apparatus." The Examiner has conceded this point in the current Office Action (p. 3, par. 4).

**Hoshuyama does not Teach or Suggest an Optical Element...Having
More Than One Pixel Per Optical Element**

The Examiner further stated that Hoshuyama teaches “optical elements in nanometer scale having more than one pixel per optical element.” Applicant respectfully disagrees with the Examiner’s assertion.

Hoshuyama describes improving the well-known Bayer Array (see col. 1, line 50) by adding dichroic mirrors as described above. The improvement described by Hoshuyama lies in the fact that the inventive arrangement gathers more information than other Bayer Array cameras that are not provided with dichroic mirrors. Other than the improvement of adding dichroic mirrors – the Hoshuyama system is functionally the same as well known cameras – where incoming light contributes to one pixel. Hoshuyama does not by any means teach or suggest a device that has more than one pixel per optical element.

It Would Not be Obvious To Combine Tangen and Hoshuyama

As stated in their previous remarks, Applicant submits that one of ordinary skill in the art would not be motivated to combine the Tangen and Hoshuyama. Specifically, Hoshuyama teaches a system for *enhancing* photon utilization of standard-sized cameras (it is not and does not even claim to be a camera), whereas Tangen is directed to *reducing* the size of standard cameras. Furthermore, one of ordinary skill in the art reading Tangen and Hoshuyama would not be motivated to combine the teachings thereof in order to arrive at a nano-scaled device. There is no teaching or suggestion in those references that would take account of necessary requirements for producing a nano-scaled device.

**The Combination of Tangen and Hoshuyama would not Result in the
Invention set forth in the instant Claims**

Applicant submits that even if one of ordinary skill in the art would try to combine the Tangen and Hoshuyama references – *doing so would not yield the invention set forth in Claim 1*. That is because it would be technically and physically impossible to combine the teachings of Tangen and Hoshuyama. In order for Hoshuyama to resolve three different colors from one signal, at least three dichroic mirrors - set at 45 degree angles are necessary in order to transfer the light to all of the light receiving surfaces. The amount of space required for this arrangement would not be feasible in nano (or even micro) sized cameras. Thus, even if one were to combine the cited references – one would not achieve the invention set forth in Claim 1.

Said differently, the space necessitated by Hoshuyama's dichroic mirrors make it impossible and, in fact, teach away from a nano or even micro-sized device.

Claims 2-23, which depend from Claim 1 are similarly limited and they are therefore believed to be allowable as well.

In view of the above, Applicant believes that the application is in condition for allowance.

Respectfully submitted,



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